

Chenxiang Zhen's Notebook

07/11/16

Work finished:

1. Understand the derivation of chemical master equation in detail.
2. Grasp how to construct simple model by CMQ.

Problem unsolved:

1. Understand how to use chemical master equation to solve the gene toggle model built by Pap.

07/12/16

Work finished:

1. Understand deeply about how to obtain reaction array FSP algorithm.
2. Understand FSP algorithm.

Problem unsolved:

1. Understand FSP algorithm in a deeper degree.
2. Understand Monte Carlo method entirely

07/13/16

Work finished:

1. Understand Runge-Kutta algorithm.
2. Grasp the example of FSP algorithm.
3. Explore the usage of cello and search supplement material.

Problem unsolved:

1. Understand SBOL and create unified format to store it.

07/14/16

Work finished:

1. Search SBOL data and definite the meaning of each parameter.

Problem unsolved:

1. Build the standard input model and input parameters in batch and standardization.

07/15/16

Work finished:

1. Search existing SBOL function, choose model to unify preliminarily.

Problem unsolved:

1. Simplify the input parameter and find their inner relationship.
2. Explore how to examine model preliminarily.

07/16/16

Work finished:

1. Unscramble the model of SYSU and contrast with the aim in our project.
2. Collect the original data.

Problem unsolved:

1. Unscramble the model of SYSU and explore how to amend our project.

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07/18/16

Work finished:

1. Summery the CME and FSP algorithm, make a PPT.
2. Understand SYSU 2014 and 2015 team wiki.

Problem unsolved:

1. Understand SYSU model comprehensively and make a template to finish examples.

07/19/16

Work finished:

1. Make the template to finish examples.
2. Continue to find method to build model.
3. Finish the existing problems in this period.

Problem unsolved:

1. Continue to build model.
2. Combined with the coach reply, arrange the team work.

07/20/16

Work finished:

1. Communicate with coach, identify the specific direction of project.
2. Learn the building model method for life system.
3. Attempt to build a parametric model.

Problem unsolved:

1. Refer to literature related to random process.
2. Start the specific work for build example model.

07/21/16

Work finished:

1. Understand FSP algorithm perfect and other algorithms, compare them and find method to build model.

Problem unsolved:

1. Continue to build model.

07/22/16

Work finished:

1. Consult the literature related to the random process to complete the matrix construction of prediction simulation and study the paper about the noise detection.

Problem unsolved:

1. Learn how to use Mathematica, improve to build and predict model.

07/23/16

Work finished:

1. Attempt simulation using Mathematica to rebuild parametric model.

Problem unsolved:

1. Perfect parametric model and continue to learn Mathematica.

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07/25/16

Work finished:

1. Discuss the problem that use MATLAB to solve the simulation curve, find infinite states simulation method.

Problem unsolved:

1. Continue to study infinite states simulation problem, unify parameter model.

07/26/16

Work finished:

1. Communicate with coach, identity the current problems.
2. Download source code of cello and scan it.

Problem unsolved:

1. Study the cello code in detail to find the matrix produced algorithm.

07/27/16

Work finished:

1. Study the cello code in detail to find the matrix produced algorithm.
2. Reinterpret FSP algorithm.

Problem unsolved:

None.

07/28/16

Work finished:

1. Communicate with coach to determine the product orientation and direction.
2. Hold a group meeting, clear screening plan.
3. Study FSP algorithm finely.

Problem unsolved:

1. Perfect the understanding to FSP algorithm.

07/29/16

Work finished:

1. Identity the principle of building matrix.
2. Propose a building method.

Problem unsolved:

1. Perfect the specific issues in detail and talk with coach to determine the program.

08/01/16

Work finished:

1. Hold a group meeting, define everyone's position.
2. Discuss how to build state matrix.

Problem unsolved:

1. Read FSP algorithm improvement literature carefully.

08/02/16

Work finished:

1. Study FSP algorithm improvement literature.
2. Discuss the method to build matrix.

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Problem unsolved:

1. Study dCME carefully.

08/03/16

Work finished:

1. Understand Spectral Method deeply.
2. Prepare for the presentation in iSWU.

Problem unsolved:

1. Continue to prepare the presentation in iSWU.
2. Find method to build matrix.

08/04/16

Work finished:

1. Prepare for presentation in iSWU.
2. Discuss the building matrix algorithm.

Problem unsolved:

None.

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